

Graybill, David

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From: Graybill, David  
Sent: Thursday, July 31, 2008 7:11 PM  
To: 'Walter J. Malinowski'  
Subject: RE: Telephone Interview Agenda - - Serial No. 10/674,853; Our docket no. YOR920030338US1

Mr. Malinowski:

It is respectfully submitted that there was no intention that you be left with the impression that our discussions regarding amendment to the claims (or any other discussions) could continue via e-mail. Today's interview was concluded at approximately 2:40 PM. As I emphasized during the interview, any subsequent formal written response will be fully considered. As per MPEP 503.03 I, a printed copy of Internet e-mail communications will be given a paper number, entered into the Patent Application Locating and Monitoring System (PALM) and entered in the patent application file. Thank you.

*David E. Graybill*  
United States Patent & Trademark Office  
*Primary Examiner*  
*Jefferson 5A21*  
*Art Unit 2822*  
*(571) 272-1930*

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From: Walter J. Malinowski [mailto:WMalinowski@hspatent.com]  
Sent: Thursday, July 31, 2008 5:23 PM  
To: Graybill, David  
Subject: RE: Telephone Interview Agenda - - Serial No. 10/674,853; Our docket no. YOR920030338US1  
Importance: High

CONFIDENTIAL/ PRIVILEGED COMMUNICATION

Recognizing that Internet communications are not secure, I hereby authorize the USPTO to communicate with me concerning the below noted matter of the below

7/31/2008

noted patent application by electronic mail. I understand that a copy of these communications will be made of record in the application file.

Dear Examiner Graybill:

I was left with the impression after our telephone interview today that our discussions regarding amendment to the claims could continue. Thus, I would like to pose the following to you. Based on our disclosure on page 6, lines 15-18, in the specification, do you see any problems, at least under 35 U.S.C. 112, for changing the last clause of claim 19 to the following. Immediately after please find the proposed claim 19 in its entirety followed by the text from the original disclosure of the specification relied upon.

~~wherein the stacked sub-layers are of alternating composition, where a layer consist of alternating sub-layers of tantalum (Ta) alternates with a layer of and one of the following metals: copper (Cu), scandium (Sc), yttrium (Y), and lanthanum (La)~~

19. (Currently Amended) A diffusion barrier comprising a plurality of stacked sub-layers,

each sub-layer having a thickness of about 0.4 to about 4.5 nanometers (nm) ~~where interfaces between the sub-layers to~~ inhibit the formation of a crystalline lattice, wherein the plurality of stacked sub-layers are arranged collectively to inhibit diffusion of a chemical species through the diffusion barrier, wherein a successive sub-layer comprises a different material from a material that comprises a preceding sub-layer and the different materials selected to comprise the sub-layers are substantially immiscible and exhibit mutual adhesion, ~~and the overall thickness of the diffusion barrier is between about 30 and 50 angstroms, where~~ the plurality of stacked sub-layers are three or more stacked sub-layers, wherein the stacked sub-layers are of alternating composition, ~~where a layer consist of alternating sub-layers~~ of tantalum (Ta) ~~alternates with a layer of and~~ one of the following metals: copper (Cu), scandium (Sc), yttrium (Y), and lanthanum (La).

I base the proposed amendment (support could also be found elsewhere from the original disclosure such as page 11, lines 3-17) on page 6 lines 15-18, of the original disclosure which reads, in pertinent part, as follows:

A diffusion barrier 315 in accordance with this invention is shown in Figure 3. The diffusion barrier 315 includes a stack of very thin layers 350, 360, generally of alternating composition. In most embodiments, this might be a stack of two alternating layers of materials, such as cobalt (Co) and tantalum (Ta).

It would be appreciated if you could respond soon.

Regards,

Walter Malinowski

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From: Walter J. Malinowski  
Sent: Wednesday, July 30, 2008 11:15 PM  
To: 'david.graybill@uspto.gov'  
Subject: RE: Telephone Interview Agenda - - Serial No. 10/674,853; Our docket no. YOR920030338US1  
Importance: High

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<< File:  
telephone\_interview\_agenda\_july\_31\_2008\_Ref\_YOR920030338US1\_909A\_0139\_  
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Dear Examiner Graybill:

Thank you for verbally granting an interview on Tuesday regarding Serial No. 10/674,853.

This email confirms that our telephone interview on July 31 is to begin at 2 PM.

Please find attached a revised proposed telephone interview agenda after again reviewing the April 2, 2008 Office Action. I would like to be able to come to agreement regarding allowable subject matter and claim formalities. If you think that the attached amended claim set overcomes the 35 USC 112 rejection and the prior art, except for an update search, and such that the claims appear to be in condition for allowance, there may be no need for a telephone interview.

Regards,

Walter Malinowski

Registration No. 43423

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From: Walter J. Malinowski  
Sent: Wednesday, July 30, 2008 5:25 PM

7/31/2008

To: 'david.graybill@uspto.gov'

Subject: RE: Telephone Interview Agenda - - Serial No. 10/674,853; Our docket no. YOR920030338US1

Importance: High

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telephone\_interview\_agenda\_july\_31\_2008\_Ref\_YOR920030338US1\_909A\_0139\_  
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Dear Examiner Graybill:

Thank you for verbally granting an interview on Tuesday regarding Serial No. 10/674,853.

This email confirms that our telephone interview on July 31 is to begin at 2 PM.

Please find attached a proposed telephone interview agenda. I would like to be able to come to agreement regarding allowable subject matter and claim formalities.

Regards,

Walter Malinowski

Registration No. 43423

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From: Walter J. Malinowski

Sent: Wednesday, February 20, 2008 2:53 PM

To: 'david.graybill@uspto.gov'

Subject: Serial No. 10/674,853; Our docket no. YOR920030338US1

Importance: High

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7/31/2008

noted matter of the below noted patent application by electronic mail. I understand that a copy of these communications will be made of record in the application file.

<< File:  
PROPOSED\_TELEPHONE\_INTERVIEW\_AGENDA\_Final\_OA\_response\_October\_26\_2008  
>>

Dear Examiner Graybill:

I would like to have a telephone interview with you sometime on or before February 25 2008 regarding Serial No. 10/674,853. Please find attached a proposed telephone interview agenda. I would like to be able to come to agreement regarding allowable subject matter.

Regards,

Walter Malinowski

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7/31/2008